



Calve as She Is Now—Gorgeous, Talented and Famous.
(Drawn by a Journal staff artist from a photograph by Reutlinger, Paris.)

Marvel of Science.

Wonders That Are Accomplished by Means of Chrono-Photography.

The Old Theory About "Landing" When Jumping from a Height Totally Disproved.

Motion of a Subject Correctly Analyzed by Means of Clockwork Apparatus.

"SNAPPING" BIRDS ON THE WING.
Surprising Results Obtained by Means of the Photographic Gun—Birds Harassed to the Car of Science.

Fifteen years ago every one was talking about the photographs of the horse in motion taken by Mr. Maybridge, under the direction of Governor Stanford, of California. Recent developments put Mr. Maybridge's work in the shadow.

Chrono-photography, the process of taking photographs in quick succession, so as to illustrate and measure the path and poses of a moving body, has been brought to a higher degree in France than anywhere else. Professor Marey, of the College of France, who has devoted years to the devising of apparatus for the recording of motion, is one of the few scientists in the world who have their own way. In the Parc des Princes (on the Rothschild property, near Auteuil racetrack, on the outskirts of Paris, a station has been constructed under Professor Marey's direction, which is as completely arranged for the prosecution of his researches as is an observatory for the work of an astronomer.



There is a fine circular track three-quarters of a mile in length, on which the paces of man and of the larger animals can be examined. Accurate and clear chrono-photography is facilitated by the arrangement of a background uniformly illuminated, and the station is supplied with registering instruments of all sorts. In an enclosure there is a collection of various animals, and the zoological specimens at the Jardin des Plantes and the Jardin d'Acclimation are freely drawn upon when any further types are desired.

The work of M. Marey is based upon the theory that if serial photography is combined with mechanical timekeeping all directions of motion and all degrees of speed may be chronicled. Adding to this registration the information supplied by any of the ordinary instruments for recording pressure, the observer has a permanent record of the effort made by any

moving creature, and the precise result, in terms of measurement, of that effort. It is only since M. Marey's station was perfected that mechanical constructors have had the full benefit of the object lessons supplied by animals. The people who experiment with flying machines (and who, if they do not fly, at any rate learn a good deal about physics) found all their calculations upon the dissections of flight which chrono-photography has achieved, and marine designers profit by the photographs of fish in motion.

The locomotion of bipeds and quadrupeds is a process to which the most exact observation is profitably employed. Mr. Marey has shown the world how a horse picks up its feet and puts them down again, but the way in which the hoof's impact is effected, the distribution of shock and the absorption of impression have never been shown before.

It is easy to understand that such experiments enlighten the veterinary sur-



Making a Chrono-Photograph of a Trotting Horse.

geon and the horse shoer, but it is surprising to learn that M. Marey has, by his study of the human foot in motion, proved that our ideas about "landing" softly when we step down from a height are really wrong. Every one tries to strike the ground with the ball of the foot before the heel. But M. Marey shows by actual experiment that the shock received in the heel is less injurious to the system than the other.

With all this equipment it is easy to understand that a man of Professor Marey's ability and industry should have secured astonishing results, and the monographs and reports that he has sent to the Academies to the Institute of France are all



Walking for Posterity.

ways received with great interest. His latest publication, "Le Mouvement," summarizes all that has been done in this field of work, not only at this station, but elsewhere and by other observers.

The chronographic shoe is one of the more elementary of the recording instruments employed at the station. The subject whose motion is to be analyzed carries in his hand a box containing a clockwork drum like that which is seen on every recording thermometer, and the elastic apparatus in the sole of the shoe transmits each impression to the needles.

For the analysis of the paces of a horse the apparatus is necessarily much more

elaborate, and the system of pneumatic tubes shown in the illustration would hardly soothe the nerves of a skittish mare. The photographic gun is used for the instantaneous "snapping" of birds on the wing, and one of the prettiest inventions of the age.

The gun receives, upon the gelatine plates arranged in a revolving chamber, successive impressions at the rate of twelve every second, so that the twenty-five plates in the magazine cover two minutes of the flight of a bird whose path the gun follows. The more violent and sudden movements, such as those of a man leaping into the air, call into play all the variants of the scheme of measurement, and the dynamograph, or force measure, shows just how much muscular energy is expended in a given jump.

Even the birds have been harnessed to the car of science, and a pigeon, hardly conscious of the weight of the tube he carries, leaves so clear a track upon the instrument that the movement of his wings can be estimated to the one-hundredth part of a second.

The whole subject is one of most fascinating interest, and it is more than likely that the investigations which will be followed up in this country. The people are quite different from those of the rest of France, for long ago they fled to these fastnesses to escape the Romans, and have remained there to the present day. They intermarried with their own race, and by this means have retained their characteristics unchanged. They are a remnant of the ancient Gauls, and one still finds among them the pure Gallic type—the red hair and fierce blue eyes that ages ago flashed on Rome when the chained Gauls walked behind the Emperor's chariot.

"My father was one of these mountaineers, but my mother came from the country further down the plain, and she was the child of a Spanish mother."

"Ah," I exclaimed; "that explains your Carmen."

Calve smiled. It all explains, she said. "You are all your ancestors and yourself added, and you are your native country absorbed into your very blood. Do you think I could sing if I had not heard the wind blowing down the mountain side, and do you think I could love art if I had not first loved nature?"

"I have a brother, but he was always at college during his childhood, as most French boys usually are, and I was alone. Yet not alone, for the very air was full of friends of my imagination. You must know that in that region there are many old feudal castles built in the days of the Crusades, and standing solemn and strong to-day, with turret and moat and drawbridge and dungeon, just as they were nearly a thousand years ago. You may fancy how those great castles and their atmosphere of romance affected the mind of an imaginative child. To me those old ruins were my story books—an enchanted realm from which I drew inspiration, which has lost none of its force to-day. It was my delight to steal away alone, and seated on a great pile of rocks, with the solemn mountains frowning upon me, dream endless dreams of the knights that had ridden beneath the grim portals to fight in the Holy Land."

"I think the forest-clad mountains whispered their secrets to me when I was a lonely little child, for I feel that I know much which I cannot say except in song. There was one castle I loved above all the rest—Cabriere. It stands high up on the mountain-top, the side of the mountain going down sheer below it, and at its base a river cuts its way through solid rock. I thought to own that venerable gray pile would be bliss, and now—listen while I tell you—I do own it! I own it!"

She laughed gayly and raised her hands in triumph. "I bought Cabriere and 800 acres. I have realized my dream. I earned the money which paid for it by singing, and that makes it all the dearer to me. Look, this is the picture."

"The peasant dances in that section also fired my fancy. They are unique; a strange mixture of Orientalism and Gallic dress. They are actual survivals of dances brought from the East by those who followed the Crusaders. To watch them was a source of inexhaustible pleasure to me. I think they contributed largely to my ideals of poetry and beauty of motion. I became passionately fond of dancing."

"I went to a convent school with the nuns of Aulrie. My father died when I was but ten, and we were left with not much of the world's goods. And so the overture, all solitude and dreams and imagination, drew to a close and the drama of my life began. I was singing in our convent chapel one day when a musician from Paris was there. He heard my voice and went to my mother and convinced her that a great future might be mine; that she must take me to Paris to study. I shrank from the idea of going upon the lyre stage. I wished to remain with my castles and my dreams amid the mountains."

"But fate was too strong for me. I went to Paris. I was sixteen then, and I studied first with Labord and with Marquet. Oh, how I pined for freedom! I who had lived among the mountains shut up like a caged bird in the walls of a city! I thought I should die, but I did not, and I thought by I ceased to beat my wings. Then came my debut in Brussels in 'Faust,' and I also sang the Page in the 'Marriage of Figaro.' I succeeded and was engaged by Maurel to create the

Calve's Life and Love.

Dramatic Genius Roused to Effort by Sorrow's Keen Thrusts.

The Strange Evolution of the Imaginative Peasant Girl of Aveyrou.

Her Wondrous Gift of Voice Banishes Obscurity, but a Shattered Ideal Makes the Actress.

TALE OF COLD FACT AND A DEAD PAST.

Realized Hopes Which Failed to Result in the Manifold Joys Painted by a Child's Fancy.

The night before I had lived and laughed with Carmen in the streets of Spain. My bodily sense had been conscious of the perfume and warm languorous sunshine that the music expressed so exquisitely. I had danced with the black-eyed gypsy and shared her wanton joys.

Now it was afternoon, the gray February afternoon of New York, and I was before Calve in her drawing-room at the Plaza Hotel. Beautiful, graceful and a mondaine to her finger tips, she stood with her white hand stretched out to me. It was another day and another world.

Yet the woman who smiled such a greeting to me was more charming than Carmen, more tragic than Santuzza, even in the modish nineteenth century gown she wore. There was a whole world of poetry and passion in the deep, dark eyes and the curved lips of her face, which beamed with sympathetic welcome.

She seated herself beside a low table, upon which a Sevres coffee service awaited her. Such a breakfast! Coffee and cream and white grapes looking like tinted wax upon the dainty dish. And Calve, in her gorgeous velvet peignoir, smiled as she apologized for beginning her dejeuner while she spoke to me in perfect French.

"Where was I born?" she repeated. "Oh, in such beauty! In the most mountainous part of all France, where the great peaks look down on the gable-roofed houses in the village of Aveyrou. There I was born. The people are quite different from those of the rest of France, for long ago they fled to these fastnesses to escape the Romans, and have remained there to the present day. They intermarried with their own race, and by this means have retained their characteristics unchanged. They are a remnant of the ancient Gauls, and one still finds among them the pure Gallic type—the red hair and fierce blue eyes that ages ago flashed on Rome when the chained Gauls walked behind the Emperor's chariot."

"My father was one of these mountaineers, but my mother came from the country further down the plain, and she was the child of a Spanish mother."

"Ah," I exclaimed; "that explains your Carmen."

Calve smiled. It all explains, she said. "You are all your ancestors and yourself added, and you are your native country absorbed into your very blood. Do you think I could sing if I had not heard the wind blowing down the mountain side, and do you think I could love art if I had not first loved nature?"

"I have a brother, but he was always at college during his childhood, as most French boys usually are, and I was alone. Yet not alone, for the very air was full of friends of my imagination. You must know that in that region there are many old feudal castles built in the days of the Crusades, and standing solemn and strong to-day, with turret and moat and drawbridge and dungeon, just as they were nearly a thousand years ago. You may fancy how those great castles and their atmosphere of romance affected the mind of an imaginative child. To me those old ruins were my story books—an enchanted realm from which I drew inspiration, which has lost none of its force to-day. It was my delight to steal away alone, and seated on a great pile of rocks, with the solemn mountains frowning upon me, dream endless dreams of the knights that had ridden beneath the grim portals to fight in the Holy Land."

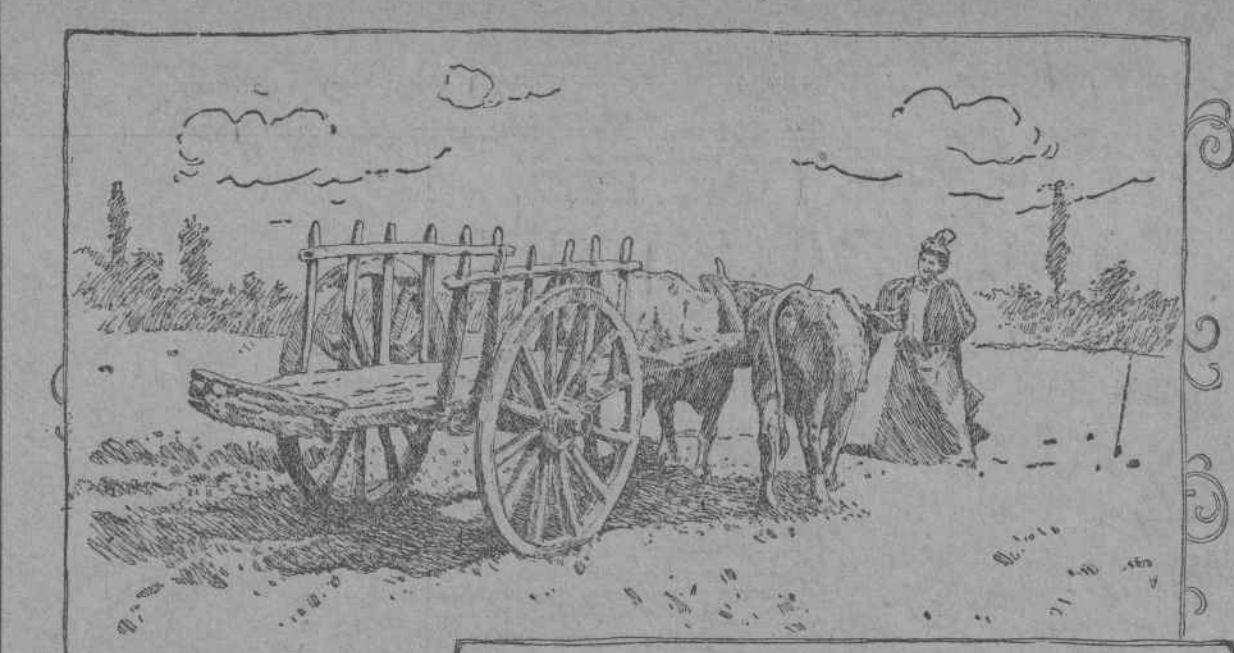
"I think the forest-clad mountains whispered their secrets to me when I was a lonely little child, for I feel that I know much which I cannot say except in song. There was one castle I loved above all the rest—Cabriere. It stands high up on the mountain-top, the side of the mountain going down sheer below it, and at its base a river cuts its way through solid rock. I thought to own that venerable gray pile would be bliss, and now—listen while I tell you—I do own it! I own it!"

She laughed gayly and raised her hands in triumph. "I bought Cabriere and 800 acres. I have realized my dream. I earned the money which paid for it by singing, and that makes it all the dearer to me. Look, this is the picture."

"The peasant dances in that section also fired my fancy. They are unique; a strange mixture of Orientalism and Gallic dress. They are actual survivals of dances brought from the East by those who followed the Crusaders. To watch them was a source of inexhaustible pleasure to me. I think they contributed largely to my ideals of poetry and beauty of motion. I became passionately fond of dancing."

"I went to a convent school with the nuns of Aulrie. My father died when I was but ten, and we were left with not much of the world's goods. And so the overture, all solitude and dreams and imagination, drew to a close and the drama of my life began. I was singing in our convent chapel one day when a musician from Paris was there. He heard my voice and went to my mother and convinced her that a great future might be mine; that she must take me to Paris to study. I shrank from the idea of going upon the lyre stage. I wished to remain with my castles and my dreams amid the mountains."

"But fate was too strong for me. I went to Paris. I was sixteen then, and I studied first with Labord and with Marquet. Oh, how I pined for freedom! I who had lived among the mountains shut up like a caged bird in the walls of a city! I thought I should die, but I did not, and I thought by I ceased to beat my wings. Then came my debut in Brussels in 'Faust,' and I also sang the Page in the 'Marriage of Figaro.' I succeeded and was engaged by Maurel to create the



Calve and Her Pet Oxen.
(From an amateur photograph made by one of her friends.)

part of Bianca in an opera called "Aben Hamet." I also sang with Maurel in "Tampa" at the Opera Comique in Paris. My voice was brilliant, they said, but I could not act. I was cold and stiff and immature. I had not learned to get beyond myself in my art.

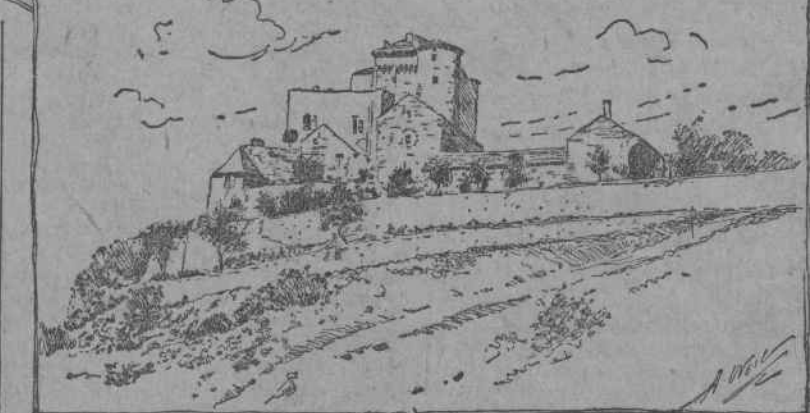
"I was nineteen by this time, and I became dreadfully ill. I went back to my mountains to be healed and to learn to live. I had succeeded as a singer, it is true, but had failed as an actress, and I learned the meaning of pain, pain in heart, and mind, and body."

"All birth comes through suffering; mine did, my second birth. Slowly in that dreadful time I began to learn; my soul awoke, I matured; from a child I had become a woman. And then I read Balzac, and he opened to me the great book of humanity. In his pages I learned to read the secret of human souls, the hidden motives of action. Balzac has influenced me greatly. And I was seized with the passion of my new knowledge, the desire to help others, to make the world better, happier."

That comes with the knowledge of suffering, the longing to get close to humanity, and help it. I went among the peasants, to know their life, to see their point of view. I saw with new eyes, eyes touched by pain. We are blind like kittens in our youth; our eyes are opened by living. No longer could nature satisfy me, though I loved her as well as ever. I took the knowledge she had given me during my childhood into the homes of the poor, and I saw it was all a mysterious whole, mankind, mountains, pain and joy.

"I had recovered then sufficiently to return to the stage. I went to Italy, and I had my first great success in Ophelia and Santuzza. You see I could act now, because I had suffered. There is one thing I am sure of; believe me, I know. No one can be an artist except through suffering. No one can portray despair except by feeling it, going down into its depths, and no one can shadow forth love until love has taken possession of the heart."

"You must feel an emotion before you can render it. After I went to Italy I saw Duse; this too was an era in my life. It was a revelation. I said: 'This is acting, this is art, this is what I want!' I was to sing Marguerite again, I



Calve's Castle.
(There was one castle I loved above all the rest—Cabriere. I thought to own that venerable gray pile would be bliss, and now—listen while I tell you—I do own it! I, myself.)
(Drawn by a Journal staff artist from an amateur photograph made by Calve herself and loaned to the Journal.)

She does not believe that any one can be faithful to art and to matrimony at the same time. Yet she has loved deeply, as only women of her temperament can. The suffering of her youth, which she referred to, was caused by an unhappy but intense love. She idealized her passion and its object, and when she came to earth again she realized all the bitterness of disillusion. The stormy heart-breaking which she endured during the early years of her career took much from her life, but gave to the world the superb artist, the glorious singer and the sensitive artistic woman—Calve.

A Medical Island.

It Is to Be Transformed Into a Great Recuperative Retreat.

To Be a Mammoth Haven for Inebriates and the Victims of Drugs.

A Tropical Paradise Found Behind Rocky Walls Far Out to Sea.

ONLY FOR PEOPLE WITH MONEY.
A Unique and Stupendous Undertaking by a Syndicate of Doctors in This Country and Europe—Plans for a Strange Colony.

Way out in the Pacific Ocean, out of the track of the ships, a mountain shoots abruptly from the water. Upon the Germanic chart it is set down as a gigantic heap of rock, raised from the bowels of the earth by some volcanic force. Vessels never land there, and it is only when they are blown out of their course that they pass it.

It is here behind these rocky walls that are ever lapped by the sea that the drunkard, the drug fiend and he who has gone the pace that kills expect to find a new lease of life. It is, in short, to be a curative island.

Behind the bleak exterior of this isolated spot is a tropical paradise. Having scaled the rugged walls, a gently sloping valley, rich in fruits and flowers and bubbling springs, greets the eye.

This island has been leased by a syndicate of doctors. Just what they propose to do with it is best told by Dr. Elmore F. Arnold, of No. 28 East Twentieth street, who is a member of the company.

"The island is about eleven days' sail from San Francisco, includes a fraction less than a square mile of territory, and is a fortress as impenetrable as Gibraltar."

Dr. Arnold has in his possession maps, photographs and statistics which he permitted the Journal to reproduce only in part.

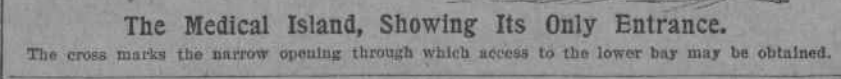
"The syndicate," he said, "which is composed entirely of physicians in New York and London, with two prominent additions from Paris and one from Berlin, has purchased, or leased from the Government of Great Britain an island in the Pacific Ocean, where, under the name of a 'curative' on a mammoth scale, and where patients will be received only after complying with certain iron-clad conditions. Patients who seek the benefits of this place must of necessity possess sufficient means to pay in advance the twelve months' treatment, including board, lodging, amusements and, in short, everything necessary to their existence, for one year."

"The island itself is one massive tropical park, shut away from the ocean which surrounds it by towering cliffs, which absolutely conceal the nature of the formation behind them. It is in the form of an inverted cone, and was doubtless created by a volcanic eruption. For centuries ships have sailed past it and regarded it only as a jutting rock. Dr. George M. Conover, of London, while on a yachting trip, first discovered that there was something behind those rocks. He rowed around the island in a small boat and at last found a passage through which he gained the interior. There a veritable Eden was presented to his gaze. He said nothing of his discovery until he returned to London, where he organized the present company."

"The colony of patients to be established there will be upon a plan that is entirely new. There will be no hotels or boarding houses, but only clubs, where, however, there will be three clubs for inebriates, three for the victims of drugs. The patients will be distributed in these according to their physical classification. Then there will be a club for graduates. Only those who have been cured will be admitted to the latter."

"These several clubs will be conducted precisely upon the principles of clubs in New York. They will elect their own officers, governors, house committees, etc., and will administer their own affairs. Each club will be independent of all the others. Members may reside at their clubs, or they may hire—or, if they choose, erect—dwellings on the island to suit themselves, always subsequent to the rules and regulations of the syndicate. These rules refer only to the title to property. Nothing can be obtained on Medical Island except upon lease, and all money invested by patients will be reimbursed by sub-rentals and dividends."

"The exact location of the island and further particulars concerning it are withheld for the present."



The Medical Island, Showing Its Only Entrance.
The cross marks the narrow opening through which access to the lower bay may be obtained.

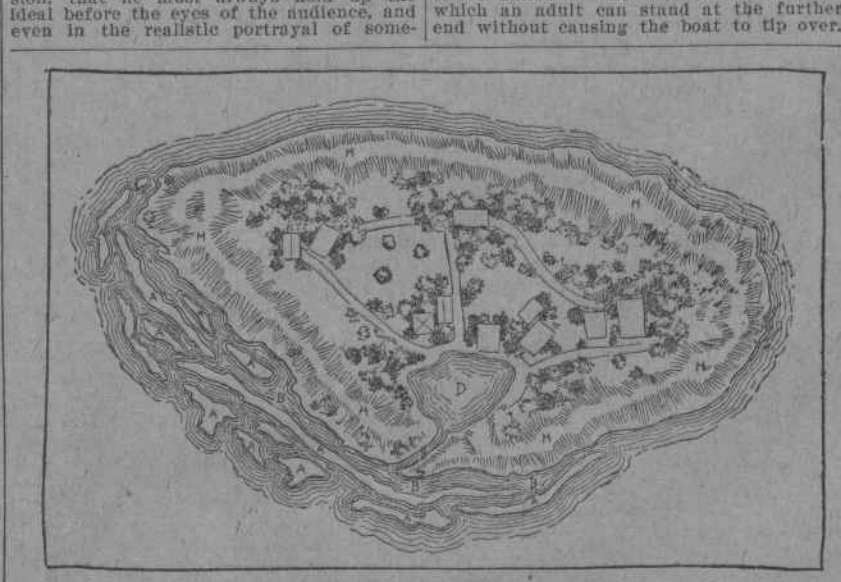
prepared myself by a careful study of Goethe. I think I can truly say I mastered it. "Will you tell me what is your ideal of an artist?" I asked.

"An artist," replied Calve slowly, "must be born one, first of all; it is necessarily a question of temperament. I firmly believe a true artist can never be mean or low. He must be generous, unselfish, give himself up wholly to art, for its own sake, and so can never be self-seeking; he must, and he must always hold up the ideal before the eyes of the audience, and even in the realistic portrayal of some-

where it was since viewed by thousands of visitors.

A lever is adjusted in the boat, by means of which a pendulum with a round iron disk is pressed down perpendicularly in the water. This pendulum is so constructed that in shallow water, or when the boat is ashore, it rests near the keel. The pendulum is, of course, manipulated by the one man, who is thus enabled to balance the boat at will.

To demonstrate the usefulness of his contrivance Herr Blon caused a long board to be nailed to one side of the boat on which an adult can stand at the further end without causing the boat to tip over.



Bird's-Eye View of the Medical Island.

thing lower, hint at the higher through it. In short, I believe an artist must never appeal to the lower emotions, but always to the nobler side, the ideal.

"The stage should elevate always," said Calve. "There is a little point of interest not known to the public of Calve, and that is that her poetic imagination leads her to a profound interest in the occultism of India, with which she is much imbued. Everything of the past with a flavor of poetry and mystery appeals to this child of the South, whose childhood partook so largely of these elements. Calve has an amateur's talent from Hindostan. It is a topaz, which she believes brings her luck, and nothing could induce her to appear without it. Whenever she sings the topaz is about her person."

Calve says that she will never marry.

Boatmakers speak highly of the invention, and the machine will undoubtedly find favor among rowers.

A Brainy Rooster.
[The Deckertown Independent.]

Miss Hattie Van Gelder, daughter of Grinnell Van Gelder, of near Unionville, last Summer took pity upon a poor chicken which was hatched with but one wing. She made a pet of it, and it became very much attached to her. It has grown to be a good-sized rooster and learns to do tricks readily. It will come at her bidding and jump upon the lap of any person she directs it to. It will crow when directed to, and has been taught to do many things which evince that it is possessed of more brains than fall to the usual lot of fowls.